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ABSTRACT

For schools to spend Title I funds on comprehensive school reform (CSR) programs under the No Child Left Behind Act, there must be empirical evidence of significant improvement in the academic achievement of CSR students. Unfortunately, there is a dearth of convincing evidence that CSR programs have a positive impact on student achievement. Over a 2-year period, the effectiveness of five CSR models was assessed in 24 low-performing elementary schools in Kentucky, Tennessee, Virginia, and West Virginia. CSR models implemented at the schools included Success for All, Different Ways of Knowing, Balanced Early Literacy Initiative (a locally developed model), Direct Instruction, and Core Knowledge. Twelve CSR schools were matched with 12 control schools. Data were collected from teacher surveys, systematic classroom observations, and individually administered reading tests. Results indicate that CSR teachers used more direct instruction and performance assessment than did teachers at control schools, and urban CSR schools used significantly more ability groups, cooperative learning, and work centers than did rural CSR schools. Control schools used more independent seatwork than did CSR schools. Teachers at CSR schools were significantly more positive about school leadership, support, capacity, pedagogy, and outcomes than were those from control schools. Students at CSR schools outperformed those at control schools on two reading achievement tests. Rural schools had higher reading achievement scores than urban schools, consistent with the significantly higher use of sustained reading in rural schools. (TD)

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Comprehensive School Reform:
A Multi-site Replicated Experiment

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President Bush's recently enacted No Child Left Behind Act (HR 1. PL 107-110 (2002)) focuses on improving the achievement of low-achieving students in the nation's highest poverty schools. It provides funds for eligible schools that employ proven strategies and methods for student learning, teaching, and management that are based on scientific research, so that all children can meet challenging state academic content and academic achievement standards. In pursuit of this goal, it funds comprehensive school reform (CSR) programs that encompass virtually all aspects of school operations including instruction, assessment, classroom management, professional development, parental involvement, school management, curriculum, and technology. In order for schools to spend Title I funds on CSR programs, the programs must have empirical evidence of significantly improving the academic achievement of CSR students compared to Control students.

Although this is a laudable goal, in reality there is a dearth of convincing evidence that the implementation of CSR programs has a positive impact on student achievement (Herman, 1999; Pechman & Fiester, 1996; Stringfield & Herman, 1994). In fact, Nunnery (1998) claims, "much of the literature on school reform is plagued with unsubstantiated claims based more on ideology and wishful thinking than on evidence" (p.280). Herman (1999) summarized 24 nationally known school reform models and assessed the strength of the evidence related to their impact on student achievement. Only three models showed strong evidence of positive effects on student achievement. Another five models showed promising effects but the remaining models were marginal at best, and some models had no research at all.

If educators are to be accountable for implementing school reforms that have evidence for improving academic achievement, then it is imperative for educational researchers to address for this lack of empirical evidence. The current study addressed the lack of empirical evidence with a systematic, longitudinal study of school-wide reforms in low-performing schools in the Southeastern United States. A matched control school multi-site replicated design (Slavin & Madden 1993) was used, consisting of 12 CSR schools and 12 Control schools. Schools were also categorized by geographic location (rural and urban) to determine if CSR implementation had a differential effect in Rural schools compared to Urban schools (Jennings, 1999; Leopold, Childers, & Howley-Rowe, 2000).

Classroom observations at each school captured data related to instructional orientation and strategies, classroom organization, student activities, technology use, and assessment, which paralleled the categories specified in the No Child Left Behind legislation. Teacher surveys provided information on school climate, teacher expectations, and perceptions of outcomes. Student achievement was assessed via standardized reading tests that were individually administered to every student in the study. The primary rationale for including a reading assessment was that reading represents the most fundamental elementary school skill, which determines readiness and ability for mastering virtually all other school subjects. Secondarily, since each state in the study mandates a different test of academic achievement, comparing student

achievement across states is best accomplished by administering the same achievement test to all students in the study.

Three research questions guided the study.

1. Is there a difference in classroom practices between CSR and Control schools after two years of implementation and do differences vary by school location (i.e. rural versus urban)?
2. Is there a difference in school climate between CSR and Control schools after two years of implementation and do differences vary by school location?
3. Is there a difference in reading achievement between CSR and Control schools after two years of implementation and do differences vary by school location?

Method

Twenty-four elementary schools in Kentucky, Tennessee, Virginia, and West Virginia participated in the research study. Each CSR school (12) was matched with a control school on the basis of free or reduced-price lunch, location (rural or urban), number of students and grade levels, and results on state-mandated tests. CSR models implemented at these schools included Success For All, Different Ways of Knowing, Balanced Early Literacy Initiative (a locally developed model), Direct Instruction, and Core Knowledge.

Data were collected from multiple sources, and included measures of school climate (*SCI©* and *SEPTQ©*), systematic classroom observations (*SOM©*), and individually administered reading tests. The reading tests administered to students in the 24 research study schools included: the Woodcock Johnson Reading Mastery Tests (Word Attack, Word Identification, and Passage Comprehension) (Woodcock, 1987) and the Durrell Oral Reading Test (Durrell & Catterson, 1980).

Throughout the 1999-2000 school year, site researchers visited each school multiple times to conduct classroom observations. In the spring of 2000, site researchers administered surveys to the faculty, and trained testers administered the reading tests to first-grade students. During the 2001-2001 school year, site researchers again visited each school multiple times to conduct classroom observations. In the spring, teacher surveys and reading tests were again administered. By the end of the two-year period, approximately 3,500 classroom observations were conducted, teachers completed 1,100 surveys, and 1,300 students completed reading tests.

Results

Classroom observations were analyzed via a three-way MANOVA using specified classroom practices as the dependent variable measures, and CSR status,

location, and year as the independent variables. Statistically significant results ($p<.05$) are reported using Effect Sizes (*ES*) based on Cohen's *d* formula (Cohen, 1988). After two years of implementation, teachers at CSR schools were observed using more direct instruction (*ES*=+0.53) and performance assessment (*ES*=+0.35) than were those at control schools. Additionally, urban CSR schools used significantly more ability groups (*ES*= +0.33), cooperative learning (*ES*=+0.75), and workcenters (ES=+0.98) than did rural CSR schools. Control schools however, used significantly more independent seatwork than did CSR schools (*ES*=+0.35).

The school climate data were analyzed via a MANOVA using the school climate dimensions as the dependent variable measures, and CSR status, location, and year as the independent variable measures. Teachers at CSR schools were significantly more positive about school leadership (*ES*=+0.21) than were those from control schools. CSR teachers also reported significantly higher levels of agreement on issues related to support (*ES*=+0.55), capacity (*ES*=+0.72), pedagogy (*ES*=+0.63) and perceptions of outcomes than did those from control schools (*ES*=+0.57). Additionally, urban CSR schools tended to report higher levels of capacity than did rural CSR schools (*ES*=+0.78).

Reading achievement data were analyzed via a MANCOVA using 2001 reading achievement test scores as the dependent variable measures, CSR status and location as the independent variable measures, and student-level socioeconomic status (SES) and the previous year's academic achievement (2000) as the covariates. Reading achievement at CSR schools was significantly higher than at control schools on the Woodcock-Johnson Word Attack test (*ES*=+0.14) and on the Woodcock-Johnson Passage Comprehension test (*ES*=+0.15) after student-level SES and previous year's academic achievement were controlled. Analysis of reading test scores showed no differences between rural and urban CSR schools, but rural schools overall scored significantly higher than urban schools on the Durrell Analysis of Reading Difficulty (*ES*=+0.20).

Conclusions

Classroom practices seem to have been affected by the implementation of CSR models. CSR teachers used more direct instruction and performance assessment than did teachers at control schools, and urban CSR schools used significantly more ability groups, cooperative learning, and workcenters than did rural CSR schools. Because two CSR schools implemented Direct Instruction (which encourages direct instruction and ability groups) and five implemented Success For All (which encourages cooperative learning and ability groups), it is reasonable to expect differences in these classroom practices to emerge. Control schools on the other hand used more independent seatwork than did CSR schools, which is probably more reflective of traditional classroom practices.

Teachers at CSR schools were significantly more positive about school leadership, support, capacity, pedagogy, and outcomes than were those from Control schools. These differences are understandable in light of the time and resources infused

into CSR schools, including extensive professional development, materials, and guidance on an ongoing basis. Control schools did not participate in these activities to the same degree as did CSR schools; hence, their perceptions were significantly lower on these dimensions.

Student achievement also seems to have been influenced by implementing a CSR model. Students at CSR schools outperformed those at control schools on two reading achievement tests after SES and the previous year's achievement were controlled. Because many of the CSR models in the study emphasized reading instruction, it is reasonable to assume that differences in reading tests are attributable in part to the CSR models. Additionally, higher reading scores at rural versus urban schools is consistent with the significantly higher use of sustained reading observed in rural schools.

Implications

Overall, CSR models together seemed to influence classroom practices, school climate, and achievement at CSR schools. If schools in this study are representative of all schools that implement CSR models, then it would be reasonable to expect similar increases in student achievement at other CSR schools. Before definitive statements can be made to this effect however, two questions must be addressed: (1) Will these results generalize to other schools that implement CSR models, and (2) Are the results obtained in the current study sustainable over time? Will schools in the current study revert back to their pre-CSR practices over time, especially after CSR funding is no longer available? A sound way to address these questions is to continue longitudinal studies of schools that implement CSR programs (Berends, et al. (2002a & 2002b), Fullan, 2000; Ross, et al. 2002).

At the policy level, policymakers and district-level educators who are considering implementing CSR programs in rural locations should address potential issues at rural schools regarding leadership, support, pedagogy, and capacity. Additionally, methods for capitalizing on the strengths inherent in rural schools (e.g., significantly higher levels of parent and community involvement in the educational process and perceptions of orderly student behavior) should be explored, especially because reading achievement was significantly higher at rural schools despite their limitations in other areas.

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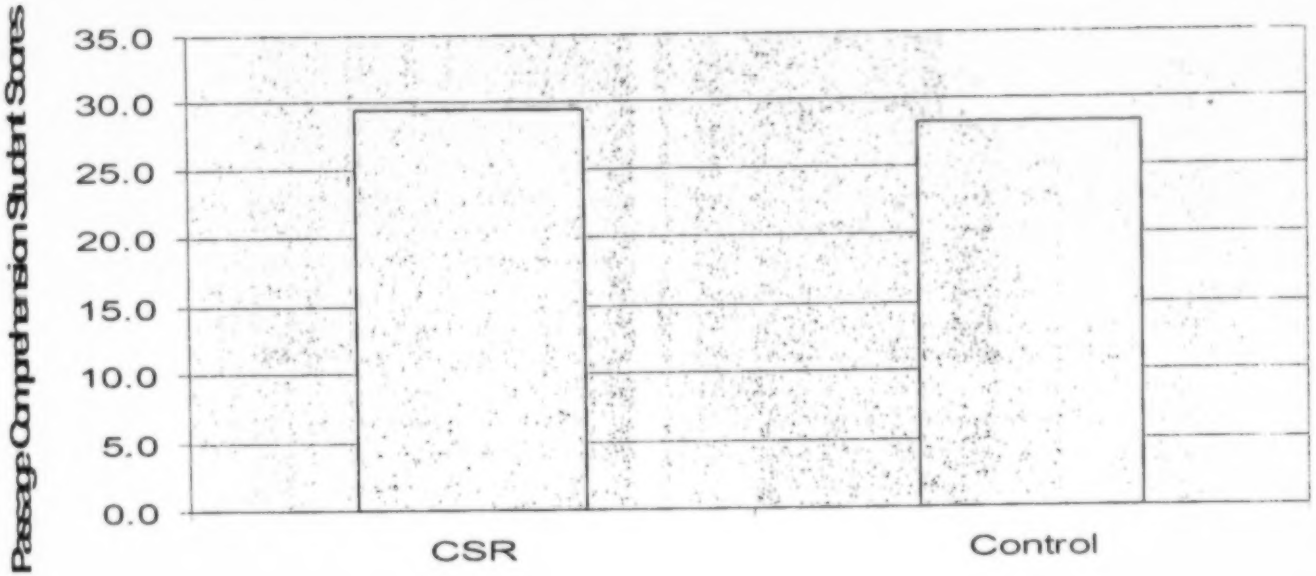
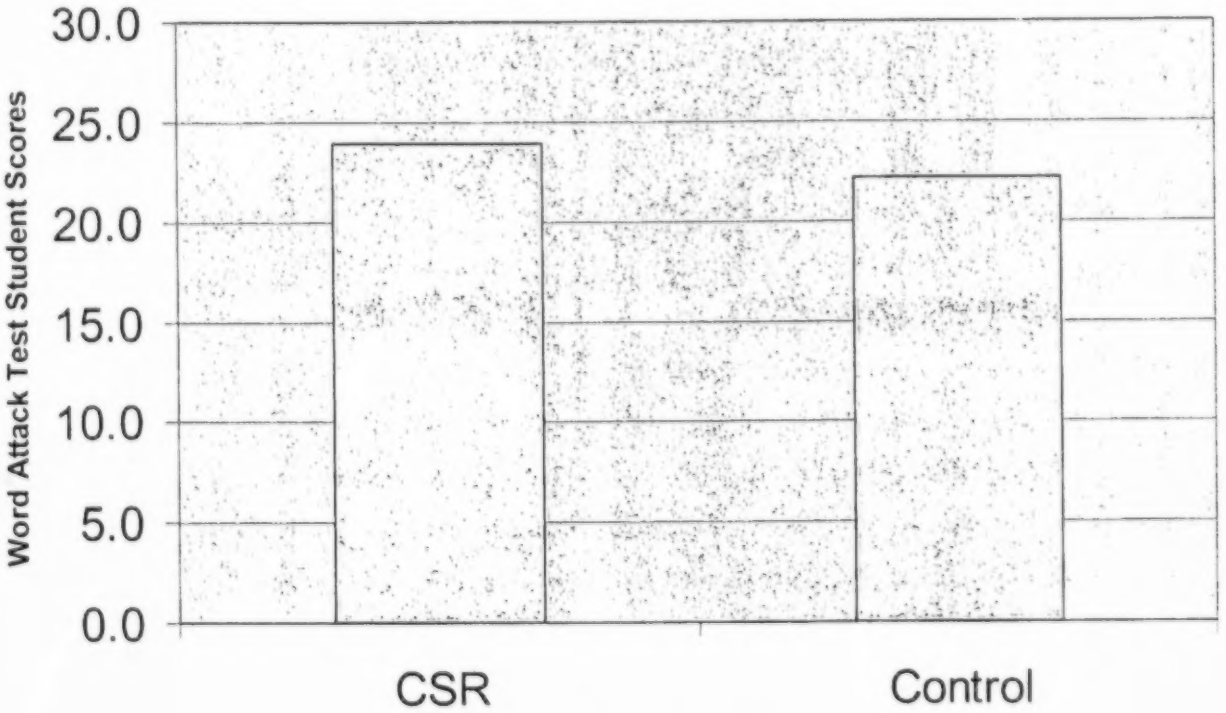
Reading Test

Passage Comprehension



Reading Test

Word Attack



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